Designed for CA NGSS: Foundations – Strengths and Limitations

Component	Strengths	Citations
F1. Presence of Phenomena / Problems.	**The materials include phenomena/problems:** • **that have the potential to drive student learning.** • **have the potential to relate across the dimensions.** **Unit Pages**: The Unit Page provides teachers and students direct access to Anchor Phenomena for the unit, as well as Investigative Phenomena for each concept found within the unit. The Unit pages are available both in print and digital, and include additional support for teachers, in the Teacher Guide, on how to launch the anchor phenomenon with students. The anchor phenomenon provides students with real-world instances of phenomena, which serve as the context for the unit project. Students communicate their initial ideas, related to the unit project, before engaging with the investigative phenomena in each concept. Investigative phenomena are carefully selected to elicit student scientific questions. As students move through the learning progression, students apply three-dimensional thinking to communicate their ideas about both the anchor phenomenon and each investigative phenomenon, with the intent of constructing explanations to their own questions. A unit level Performance Based Assessment asks students to reflect on a new phenomenon to demonstrate transfer of learning across the three dimensions of the unit.	California Physics of the Universe: Unit 5: Waves and Electromagnetic Radiation Unit Page: Digital: Anchor Phenomena: **https://tinyurl.com/tjcqsm6** Concept Pages: ○ Print: TE: • Concept 5.1: Investigative Phenomenon p. 244 • Concept 5.2: Investigative Phenomenon p. 268 • Concept 5.3: Investigative Phenomenon p. 281 • Concept 5.4: Investigative Phenomenon p. 294 SE: • Concept 5.1: Investigative Phenomenon p. 250 Concept 5.2: Investigative Phenomenon p. 282 • Concept 5.3: Investigative Phenomenon p. 296 • Concept 5.4: Investigative Phenomenon p. 308

Component	Strengths	Citations
F1. Presence of Phenomena / Problems.	**Examples** **Unit Level Anchor Phenomenon**: *California Physics of the Universe: Unit 5: Waves and Electromagnetic Radiation*: In this unit, students consider NOAA data and a tsunami event in video format to question how waves carry and transfer energy while wondering about how wave characteristics might contribute to that phenomenon. **Investigative Phenomenon:** In the first concept, *Wave Characteristics*, students explore common examples and characteristics of waves in everyday life and then through a *MythBusters* video in which the idea of whether dynamite contains enough energy to create waves for surfing. Continuing their exploration of energy and matter, in the concept *Reflection and Refraction*, students consider images and videos of objects exhibiting these properties. An image of the Washington Monument reflection pool, refraction in the eyes and colors of wildlife in nature, and a video of *MythBusters* exploring whether it was truly possible for Greek soldiers to use brass mirrors to set ships on fire. Students build their understanding of energy and matter as well as cause and effect while considering earthquakes and their wave properties in the concept *Seismic Waves.*	○ Digital: Science Techbook Concept 5.1: dlc.com/ca11077s • Concept 5.2: dlc.com/ca11081s • Concept 5.3: dlc.com/ca11085s • Concept 5.4: dlc.com/ca11089s PBA example: ○ Digital: **https://tinyurl.com/yyqrmqxv**

Component	Strengths	Citations
F1. Presence of Phenomena / Problems.	Finally, in the *Earthquakes and their Impacts* concept, students focus on how earthquakes affect matter by connecting earthquakes with tsunamis while considering how the locations compare to tectonic plate movements. **Unit Project**: Students return to the anchor phenomenon in the unit project "Visualize What Causes a Tsunami" to apply evidence from their systems approach across the concepts of the unit and build a model of earthquakes causing a tsunami. **Phenomenon-Based Unit Assessments** (IN ENGLISH AND SPANISH): *California Physics of the Universe: Unit 5: Waves and Electromagnetic Radiation*: In this assessment, students are presented with a storyline in which they investigate the seismic activity and wave properties that contribute to a tsunami as a working scientist would do.	

Component	Strengths	Citations
F2. Presence of Three Dimensions.	**The materials include the three dimensions, such that:** • **the DCIs, SEPs, and CCCs are present and have the potential to support student learning.** • **when engineering design is a learning focus, it is integrated with the appropriate dimensions (i.e., engineering is not isolated).** Each concept has a multitude of resources and materials to support learning of the DCIs, SEPs and CCCs. Specific examples of the California Science Experience assets include, but are not limited to: **Course Level Alignment**: • The course level development of DCIs, SEPs, and CCCs can be found in the CA 3D Matrix. **Unit Level Alignment**: *California Physics of the Universe: Unit 5: Waves and Electromagnetic Radiation*: In this unit, students consider NOAA data and a tsunami event in video format to question how waves carry and transfer energy while wondering about wave characteristics might contribute to that phenomenon. Students can then launch their own research and investigations utilizing SEPs through the unit while considering the CCCs.	Course Level Alignments: **https://tinyurl.com/vpstcc5** California Physics of the Universe: Unit 5: Waves and Electromagnetic Radiation Unit Page: Digital: Anchor Phenomena: **https://tinyurl.com/tjcqsm6** Concept Pages: Print: TE: • Concept 5.1: Investigative Phenomenon p. 244 • Concept 5.2: Investigative Phenomenon p. 268 • Concept 5.3: Investigative Phenomenon p. 281 • Concept 5.4: Investigative Phenomenon p. 294 SE: • Concept 5.1: Investigative Phenomenon p. 250 Concept 5.2: Investigative Phenomenon p. 282 • Concept 5.3: Investigative Phenomenon p. 296 • Concept 5.4: Investigative Phenomenon p. 308

Component	Strengths	Citations

F2. Presence of Three Dimensions.	**Concept Level Alignment**:
	• Learning Objectives are driven by the expectations of the NGSS
	• During the instruction cycle:
	  ○ Activity-level SEP and CCC integration are present: Students define questions, collect evidence, analyze data, and utilize scientific explanations building their practices (SEPs)
	  ○ Teacher notes encourage reflection on students' performance across the three dimensions.
	
	Formative Assessment Items:
	• Multidimensional assessment items expect students to demonstrate an SEP with a DCI or a CCC with a DCI.
		Digital:
		Science Techbook
		• Concept 5.1: dlc.com/ca11077s
		• Concept 5.2: dlc.com/ca11081s
		• Concept 5.3: dlc.com/ca11085s
		• Concept 5.4: dlc.com/ca11089s
		
		PBA example:
		○ Digital: **https://tinyurl.com/yyqrmqxv**

Component	Strengths	Citations
F3. Presence of Environmental Principles & Concepts (EP&Cs).	**The materials include (as applicable):** • **instructional content that incorporates the California EP&Cs.** • **opportunities for students to examine the interactions and interdependence of human societies and natural systems.** • **opportunities for students to develop and implement solutions to real-world environmental problems.** The Discovery Education Comprehensive Science Program includes varied resources that identify, include, and align the instructional content to the California EP&Cs. See examples below: **Course Level Alignment**: EP&C Map demonstrates consistency across High School courses in the alignment to EP&Cs. **Unit Level Alignment**: *California Physics of the Universe: Unit 5: Waves and Electromagnetic Radiation*: In this unit, students consider NOAA data and a tsunami event in video format to question how waves carry and transfer energy while wondering about how wave characteristics might contribute to that phenomenon. Students can then launch their own research and investigations utilizing SEPs through the unit while considering the CCCs.	Course Level Alignments: **https://tinyurl.com/vpstcc5** California Physics of the Universe: Unit 5: Waves and Electromagnetic Radiation Unit Page: ○ Digital: Anchor Phenomena: **https://tinyurl.com/tjcqsm6** Concept Pages: ○ Print: TE: Concept 5.1: Investigative Phenomenon p. 244 Concept 5.2: Investigative Phenomenon p. 268 Concept 5.3: Investigative Phenomenon p. 281 Concept 5.4: Investigative Phenomenon p. 294 SE: Concept 5.1: Investigative Phenomenon p. 250 Concept 5.2: Investigative Phenomenon p. 282 Concept 5.3: Investigative Phenomenon p. 296 Concept 5.4: Investigative Phenomenon p. 308 ○ Digital: Science Techbook Concept 5.1: dlc.com/ca11077s Concept 5.2: dlc.com/ca11081s Concept 5.3: dlc.com/ca11085s Concept 5.4: dlc.com/ca11089s PBA example: ○ Digital: **https://tinyurl.com/yyqrmqxv**

Component	Strengths	Citations
F4. Presence of a Logical Sequence of Learning.	**Materials demonstrate appropriate sequencing of three dimensions when:** • **they include a targeted set of DCIs, SEPs, and CCCs within a sequence; the sequence is clear and logical across the DCIs; and the SEPs and CCCs are potentially sufficient and appropriate for students to figure out the phenomena or problems.** • **phenomenon or problems are linked to each other.** The three dimensions are aligned and sequenced within California Science Experience to follow the performance expectations of NGSS and the instructional segments of the California Science framework. **Unit Level Alignment**: *California Physics of the Universe: Unit 5: Waves and Electromagnetic Radiation*: In this unit, students consider NOAA data and a tsunami event in video format to question how waves carry and transfer energy while wondering about wave characteristics might contribute to that phenomenon. Students can then launch their own research and investigations utilizing SEPs through the unit while considering the CCCs. **Concept Level Sequence Examples**: Students are introduced to grade appropriate, linked phenomena, that are developmentally scaffolded and in a logical sequence to facilitate engagement in the three dimensions to drive students toward the learning goals.	Course Level Alignments: **https://tinyurl.com/vpstcc5** California Physics of the Universe: Unit 5: Waves and Electromagnetic Radiation Unit Page: ○ Digital: Anchor Phenomena: **https://tinyurl.com/tjcqsm6** Concept Pages: ○ Print: TE: • Concept 5.1: Investigative Phenomenon p. 244 • Concept 5.2: Investigative Phenomenon p. 268 • Concept 5.3: Investigative Phenomenon p. 281 • Concept 5.4: Investigative Phenomenon p. 294 SE: • Concept 5.1: Investigative Phenomenon p. 250 Concept 5.2: Investigative Phenomenon p. 282 • Concept 5.3: Investigative Phenomenon p. 296 • Concept 5.4: Investigative Phenomenon p. 308

Component	Strengths	Citations
F4. Presence of a Logical Sequence of Learning.	In the first concept, *Wave Characteristics*, students explore common examples and characteristics of waves in everyday life and then through a *MythBusters* video in which the idea of whether dynamite contains enough energy to create waves for surfing. Continuing their exploration of energy and matter, in the concept *Reflection and Refraction*, students consider images and videos of objects exhibiting these properties. An image of the Washington Monument reflection pool, refraction in the eyes and colors of wildlife in nature, and a video of *MythBusters* exploring whether it truly was possible for Greek soldiers to use brass mirrors to set ships on fire. Students build their understanding of energy and matter as well as cause and effect while considering earthquakes and their wave properties, in the concept *Seismic Waves*. Finally, in the *Earthquakes and their Impacts* concept, students focus on how earthquakes affect matter by connecting earthquakes with tsunamis while considering how the locations compare to tectonic plate movements.	○ Digital: Science Techbook • Concept 5.1: dlc.com/ca11077s • Concept 5.2: dlc.com/ca11081s • Concept 5.3: dlc.com/ca11085s • Concept 5.4: dlc.com/ca11089s PBA example: ○ Digital: **https://tinyurl.com/yyqrmqxv**

Designed for CA NGSS: Monitoring Student Progress – Strengths and Limitations

Criteria	Strengths	Citations
SP1. Quality of supports for monitoring 3D learning and EP&Cs integration.	**Assessments are designed to:** • **ensure that students use SEPs integrated with DCIs and CCCs to demonstrate their understanding of phenomena and/or design solutions to problems.** • **connect student learning experiences to the targeted learning goals.** • **elicit observable evidence of students' knowledge of and ability to use grade-level-appropriate elements of the three dimensions.** • **ensure that students use EP&Cs where applicable to demonstrate their understanding of environmental phenomenon/problem solution.** California Science Experience fosters a dynamic classroom environment where students interact with printed text, digital resources, and hands-on activities, all which create three-dimensional learning experiences. Each concept in the California Science Experience purposefully layers each dimension of the NGSS, so students can authentically demonstrate the SEPs and CCCs. Within each course, students learn about and apply three-dimensional learning in a variety of ways.	Student Work Tagged by SEP and CCC throughout Explore, Explain, and Elaborate for both Teacher and Student: Physics of the Universe: Unit 1: Forces and Motion ○ Digital: Explore Tab: **https://tinyurl.com/v3ogrjm** Technology Enhanced Items: Understanding and Describing Motion ○ Digital: Explore Tab: **https://tinyurl.com/svksvs8** ○ Hands-On Lab: Newton's First Law of Motion **https://tinyurl.com/sv9clds**

Criteria	Strengths	Citations
SP1. Quality of supports for monitoring 3D learning and EP&Cs integration.	**Teacher Dashboard: Real Time Data & Differentiation** Teachers are equipped with a Dashboard on the right-hand side of the screen that shows all student answers to the Technology Enhanced Items (TEIs). These activities are tagged by SEP and CCC designations for both the student. Students are frequently applying the Environmental Principles and Concepts throughout their learning. Throughout the learning progression, each tab of each concept includes Technology Enhanced Items that have students connect to what they already know about the topic (Engage), and then as they progress, to monitor what they do learn as they explore and learn through a variety of multimodal resources (Explore, Explain, Elaborate, Evaluate). Students receive feedback on their knowledge, and the teacher has real-time access to this data in the Dashboard. This real-time data allows teachers to remediate, accelerate or reinforce learning as needed, in order to help students develop metacognitive abilities. Based on this real-time data, teachers can then make decisions about the needs of each student and select an appropriate instructional resource within the concept to meet the students' needs. Discovery Education Experience resources deepen the pool of assets that can be assigned to students. In addition to the full Dashboard, teachers have a Results View for all individual Technology Enhanced items at point of use as well.	Student and Teacher Learning Dashboards Video of Dashboard functionality: https://tinyurl.com/y4chmhbz Unit Level Performance Based Assessment Physics of the Universe: Unit 1: Forces and Motion PBA example: • **https://tinyurl.com/yyqrmqxv** • PBA Teachers Guide: • **https://tinyurl.com/s6uedyz** **EP&C's and 3-Dimensional Learning** ○ **https://tinyurl.com/y53gca7g**

Criteria	Strengths	Citations
SP1. Quality of supports for monitoring 3D learning and EP&Cs integration.	**Builder Tools:** Assessment Builder and Discovery Studio give teachers flexibility to create customized assessments. **Hands-on Activities and Hands-on Labs:** Essential to the integration of a majority of the science and engineering practices, hands-on activities and labs allow students to design and conduct investigations, develop models, and reflect on their learning through the analysis and conclusion questions accompanying each activity. The student investigation sheet in the digital product purposefully does not provide the procedures for the investigation to encourage students to develop their own methods and processes. Technology Enhanced Items: At critical places within the learning cycle, students are presented with assessment items that require them to apply a SEP and/or a CCC with the disciplinary core idea of the concept. **Online Interactive Models**: Students have the opportunity to manipulate various online models found in every concept to collect data and test out their ideas.	

Criteria	Strengths	Citations
SP1. Quality of supports for monitoring 3D learning and EP&Cs integration.	**STEM Project Starters**: Options for students to further elaborate on the disciplinary core ideas through the application of various SEPs and CCCs can be found in the STEM Project Starter section under Elaborate. These feature activities that are rooted in real-world problems that often address California Environmental Principles and Concepts. **Unit Level Performance-Based Assessments**: Students demonstrate three-dimensional learning through multiple prompts associated with a common scenario. Teacher Guides for each PBA describe the multidimensional nature of each prompt and provide sample student responses.	

Criteria	Strengths	Citations
SP2. Quality of capturing student progress over time.	**Assessments are designed to:** • **ensure that students use SEPs integrated with DCIs and CCCs to demonstrate their understanding of phenomena and/or design solutions to problems.** • **connect student learning experiences to the targeted learning goals.** • **elicit observable evidence of students' knowledge of and ability to use grade-level-appropriate elements of the three dimensions.** • **ensure that students use EP&Cs where applicable to demonstrate their understanding of environmental phenomenon/problem solution.** California Science Experience is an interactive, digital resource designed to provide students with multimodal content to enhance and personalize the learning experience. The entire 5E learning cycle described in previous responses utilizes digital content to construct meaningful, interactive lessons—with embedded assessment. Examples of these formative and summative types of assessments include, but are not limited to: **Multidimensional Technology Enhanced Items (TEIs)** TEIs have been embedded throughout each concept to uncover what students know and allow students to demonstrate three-dimensional proficiency of the academic standards. Student responses feed directly to the Teacher Dashboard, providing instant access to data to inform instruction. Each TEI has three distinct	Student and Teacher Learning Dashboards Video of Dashboard functionality: • https://tinyurl.com/y4chmhbz

Criteria	Strengths	Citations
SP2. Quality of capturing student progress over time.	features: an evidence statement, instructional feedback, and scoring expectations. **Assessment Builder** Discovery Education's Assessment Builder offers a unique opportunity to effectively assess individual student performance, both on the part of the teacher and for student self-assessment. The Assessment Builder tool also provides remediation content suggestions for areas in which students may need further work. Class and individual reports serve as a mechanism to measure performance easily in all content areas, provide feedback, and inform educators how to best support individual student growth and improvement. Teachers can utilize pre-created concept and unit assessments or create their own, including standards-based assessments and teacher-created items. Because the assessment of students is an ongoing process that occurs throughout each lesson, other formative and self-assessment types are embedded throughout digital and print lessons in order to provide benchmarks that show student progress in preparation for the final measure, the summative assessment. Constructed response items, hands-on lab worksheets, and Scientific Explanation sheets include rubrics for scoring, visible to teacher and student. Online responses are compiled and displayed for teachers in a dashboard. Names can be removed from the dashboard and the response order randomized so that responses can be used for class discussion and the selection of	

Criteria	Strengths	Citations
SP2. Quality of capturing student progress over time.	student exemplars. The Assessment Dashboards in the Californ ia Science Experience allow teachers to track student progress on assessment items, with easy-to-read color coding, also known as traffic light scoring.	

Criteria	Strengths	Citations
SP3. Quality of guidance and tools that use a variety of measures.	**Assessments are matched to targeted learning goals and elicit a full range of student thinking by:** **• providing clear expectations (e.g., rubric) to students so they understand how they can demonstrate their knowledge.** **• using a variety of measures (e.g., performance tasks, discussion questions, constructed response questions, project- or problem-based tasks, portfolios, and justified multiple choice).** **• providing set(s) of tasks so that students can demonstrate their understanding of the same learning goals in multiple ways.** **Discovery Education Evidence:** Discovery Education supports students throughout their learning journey with an end goal of students achieving proficiency in defined learning goals. Within the Discovery Education Comprehensive Science Program, formative and summative assessments are embedded into the 5E learning cycle for each concept, along with assessments at the unit level. **Learning Targets:** Every concept in the Student Edition begins with learning objectives to articulate clear learning expectations for students. **Various Measures:** There are a variety of measures throughout the California Science Experience that allow students to demonstrate their learning. Examples of these various assessments include, but are not limited to:	**Summative Assessments** California Physics of the Universe: Unit 1: Forces and Motion ○ Digital: • **Summative Assessment**: Forces and Motion: **https://tinyurl.com/yyqrmqxv** **Scientific Explanations:** California Physics of the Universe: Unit 4: Nuclear Processes ○ Print: SE: • Explain: Nuclear Fission: pg. 235 • Digital: **dlc.com/ca11070s** • Scientific Explanation Teacher Rubric: **https://tinyurl.com/tdl8y6w** **Hands-On Activities and Hands-On Labs** California Physics of the Universe: Unit 4: Nuclear Processes ○ Digital: **Hands-On**: Penny Half-Lives: **https://tinyurl.com/u3b4val**

Criteria	Strengths	Citations
SP3. Quality of guidance and tools that use a variety of measures.	**Technology Enhanced Items** (TEIs) in each concept allow students to demonstrate three-dimensional proficiency of the performance expectations. Student responses feed directly to the Teacher Dashboard, providing instant access to data to inform instruction. Each TEI has built-in scaffolded feedback for students, and a variety of TEI types that are aligned to the Smarter Balanced Assessments are integrated across each concept. **Summative Assessments** are in each concept's Evaluate section with their results displayed in the Teacher Dashboard. These assessments include multiple types of TEIs, including drag and drop, select all that apply, and read and highlight items, to name a few. Teachers are able to identify areas of strength and weakness on each assessment for each student and subsequently provide remediation to ensure the achievement of proficiency for all students. **Scientific Explanations:** Scientific Explanations allow students to analyze complex text and authentic data and evaluate information to support a student-generated claim. Following the Claim Evidence Reasoning format, students and teachers can review and provide feedback to one another to increase the rigor of the response throughout a concept, unit, or course.	

Criteria	Strengths	Citations
SP3. Quality of guidance and tools that use a variety of measures.	**Hands-On Activities and Hands-On Labs** (HOAs and HOLs) provide opportunities for students to demonstrate the science and engineering practices and analyze data to look for evidence of crosscutting concepts. Based on the proficiency of the students, teachers can determine the appropriate amount of scaffolding. Analysis and conclusion questions allow students to reflect on their learning. **Assessment Tools**, including Discovery Experience Resources, provide teachers and students with ample resources not only to build different types of assessments but also to provide students with a unique set of tools that allows them to demonstrate their learning in unique ways. Tools like Assessment Builder and Discovery Studio give teachers flexibility to create customized assessments. Discovery Education's Studio also provides students with a "digital poster" to make their learning collaborative and public while also using the 200,000+ Experience robust digital content assets to build, enhance, and enrich their understanding.	

Criteria	Strengths	Citations
SP4. Quality of support and strategies for ensuring equitable access.	**Assessments are designed to be:** • **free from bias (e.g., gender, racial, socioeconomic status, cultural).** • **accessible to all students (e.g., reading level, accommodations).** Assessment items developed for the California Science Experience allow all students the ability to demonstrate their disciplinary core knowledge. Math tools such as the scientific calculator, unit converter, and graphing calculator are available for use at all times by students, including in the unit-level performance-based assessment (PBA). Summative unit-level performance-based assessments are available in Spanish. For Technology Enhanced Items (TEIs) within each concept, the adaptability of the Discovery Education platform to work with Google Translate allows students to access 100+ additional languages beyond Spanish.	California Physics of the Universe: Unit 4: Nuclear Processes ○ Digital: • 3D-Performance Based Assessment: Nuclear Processes (SPANISH): **https://tinyurl.com/qry8pz5**

Criteria	Strengths	Citations
SP5. Quality of use of formative and summative assessments.	**The materials provide self- or peer-assessments that allow students to reflect on and monitor their learning over time.** Students can monitor their progress across a course using the student level dashboard. The dashboard includes color-coded, or traffic light scoring, for each technology-enhanced item found within a concept. As students progress through concepts, there are many opportunities that are provided for reflection throughout the Student Edition. Teacher embedded notes throughout also guide students to reflect on their new thinking. Additionally, students can reflect on their growth in the development of scientific explanations constructed during the Explain portion of each lesson. Students will learn to increase the rigor and relevance of the evidence embedded within their explanations. The “your ideas” item found in Engage under the Can You Explain (CYE) question allows students to record initial ideas or responses to the questions. Students can compare their initial responses after constructing their explanations in Explain. Students can review and provide feedback to one another throughout. The Discovery Education Studio creation tool allows students to create portfolios of their work over a course, unit, or concept. Students can collaborate with other students using the Studio tool, as well as share examples of their work with the teacher and their classmates.	**Hands-On Activities and Hands-On Labs** California Physics of the Universe: Unit 4: Nuclear Processes ○ Digital: **Hands-On**: Determining the Absolute Age of Minerals: **https://tinyurl.com/rbtfcgw** California Physics of the Universe: Unit 4: Nuclear Processes ○ Print: SE: • Can you Explain?: The Chemistry of Life: pg. 227 • Digital: Quick Code dlc.com/ca11069s

Designed for CA NGSS: Teacher Support - Strengths and Limitations

Components	Strengths	Citations
TS1. Phenomena/ problems Driven Three-Dimensional Learning.	**Teacher materials provide background information about the phenomena or problems included in the learning sequence and across sequences provide:** • **an explanation of the role of phenomena or problems in driving student learning.** • **rationale for why the unit phenomena or problems were selected for the targeted DCIs, SEPs, CCCs, and EP&Cs (when applicable).** Anchor and Investigative Phenomena were identified for each unit and concept based on their ability to demonstrate the disciplinary core ideas of the required performance expectations of the instructional segment bundles. Writers of the California Science Experience also considered the age appropriateness of topics to select real-world phenomena that would engage students in high school. **Unit Level Support:** The Unit Pages provide teachers and students direct access to Anchor Phenomena for the unit, as well as Investigative Phenomena for each concept found in the unit. Students are engaged in real-world phenomena using video, imagery, hands-on experiences, and other modalities. Students are encouraged to write their own questions, but phenomena are also paired with guided questions for scaffolding when appropriate. As students move through the learning progression, the Anchor Phenomenon will be linked to concept Investigative	Three Dimensions at a Glance California Physics of the Universe: Unit 1: Forces and Motion ○ Digital • Three Dimensions at a Glance: **https://tinyurl.com/y53gca7g** Anchor Phenomenon California Physics of the Universe: Unit 1: Forces and Motion ○ Digital: **Anchor Phenomenon**: Orogeny: **https://tinyurl.com/y53gca7g** • Lesson Overview California Physics of the Universe: Unit 1: Forces and Motion ○ Print: SE: • **Lesson Overview**: Understanding and Describing Motion: pg. 1

Components	Strengths	Citations
TS1. Phenomena/ problems Driven Three-Dimensional Learning.	Phenomena, which will drive student explorations using the SEPs through the lens of the CCCs. **Concept-Level Support:** Each concept begins with a smaller, real-world investigative phenomenon allowing students to dive into the remainder of content across the 5Es, looking for evidence to explain the investigative phenomenon. Teachers are supported through the use of embedded teacher notes and additional strategies found in the print Teacher Edition. For example, the first teacher note found in Engage provides a strategy to utilize with students. A teacher can use the Can You Explain? question as a frame for learning or can encourage students to develop their own questions to explore within the concept. In the California Science Experience teachers receive additional support through teacher notes. Point-of-use teacher notes within each E tab, additional assessments, student misconceptions, background material, and more are visible by turning on the Teacher View toggle. **Teacher Notes:** Teachers notes found in Engage describe how to set up an experience for students to allow the students to generate questions around the Investigative Phenomena. Teacher notes found within Unit Project in Elaborate help the teacher structure small groups or prepare materials needed for design activities.	Model Lesson California Physics of the Universe: Unit 1: Forces and Motion ○ Digital: **https://tinyurl.com/ruwera2** Investigative Phenomena California Physics of the Universe: Unit 1: Forces and Motion ○ Print: TE: **Investigative Phenomena**: Impact of Glacier Movement: pg. 1 • Digital: **dlc.com/ca11009s**

Components	Strengths	Citations
TS1. Phenomena/ problems Driven Three-Dimensional Learning.	**Teacher Guides:** Throughout the entire 5E learning cycle, students will be exposed to activities expecting them to generate explanations or solve problems. For the scientific explanation activity found in Explain, as well as all Hands-on Activities, additional detailed teacher guides support teachers in successfully preparing and carrying out the activity with their class. **Three-Dimensional Learning Supports:** California Science Experience includes several tiers of support to assist teachers with planning three-dimensional learning experiences. Explicit guidance for three-dimensional learning is included throughout the print Teacher Edition and the digital notes. NGSS standard indicators are noted at both the unit and concept level to guide teacher planning. **Concept-Level Support** • Learning Objectives driven by the expectations of the NGSS • Days of Instruction: ○ Embedded Teacher Notes describe strategies on how to create a three-dimensional experience for students ○ Differentiation Strategies to support a variety of learners	

Components	Strengths	Citations
TS2. Coherence.	**Teacher materials describe and provide a rationale for the conceptual framework and sequence of ideas, practices, and learning experiences in the learning sequences and for across sequences:** • **strategies for linking student experiences across lessons to ensure student sense- making and/or problem-solving focused on phenomena or problems is linked to learning across all three dimensions.** • **connections to other science domains, nature of science, engineering, technology, and applications of science, math, ELA, and EP&Cs (when applicable).** California Science Experience provides for coherence by: • limiting the topics covered to the topics identified in NGSS • arranging experiences so that student understanding grows over the course of the unit. • connecting concepts over the course of the year and from one year to the next. Because the courses in the California Science Experience were designed to address the requirements of NGSS, they include the core ideas, science and engineering practices, and crosscutting concepts that are identified in NGSS for a given grade. California Science Experience addresses no more and no less than the content specified within NGSS while expanding the time and depth devoted to the core concepts.	**EP&C's and 3-Dimensional Learning** • **https://tinyurl.com/y53gca7g** California Physics of the Universe: Unit 1: Forces and Motion Unit Page: ○ Digital: Anchor Phenomena: **https://tinyurl.com/yyqrmqxv** Concept Pages: Print: ○ TE: • Concept 1.1: Investigative Phenomenon p. 1 • Concept 1.2: Investigative Phenomenon p. 11 • Concept 1.3: Investigative Phenomenon p. 25 • Concept 1.4: Investigative Phenomenon p. 36 • Concept 1.5: Investigative Phenomenon: p. 50

Components	Strengths	Citations
TS2. Coherence.	California Science Experience provides for coherence by arranging topics so that student understanding grows over the course of a lesson and by connecting ideas from one lesson to another. Each 5E model lesson is designed for multiple sessions. The print Teacher Edition and digital Model Lesson for the California Science Experience supports teachers as they plan their instruction to build upon the appropriate progressions related to all three dimensions of the standards. **NGSS Standards Overview Tab:** Shows how each concept is aligned with the three-dimensional components of each performance expectation. **Teacher Preparation Tab:** Includes NGSS learning progression charts indicating the previous and next grade level progression based on the standards for the concept, as well as specific descriptions of how the content connects to students' everyday lives. **NGSS Overviews:** Provides breakdowns of the performance expectations for the concept, as well as the ELA, ELD, and Math Standards, and California Environmental Principles associated with the Performance Expectation.	

Components	Strengths	Citations
TS3. Effective Teaching.	**Teacher materials support the use of and provide a rationale and evidence of effectiveness for strategies that:** • **support students in learning through authentic and meaningful phenomena or design problems.** • **support student learning across the three dimensions.** • **make student thinking visible; promote reasoning, sense-making, and problem-solving; challenge student thinking; and develop metacognitive abilities** California Science Experience digital and print was designed and developed to meet the needs of students and to allow for flexibility for teachers to use in a variety of classroom settings. **Supporting 21st Century Learners:** Through every step of the learning cycle, Discovery Education's Life Science, Chemistry and Physics Science Techbooks feature diverse and rich multimedia resources: video, images, audio, interactives, virtual labs, online models, animations, rich informational text, and more. Marquee Discovery Education content including *MythBusters*, *Street Science*, and *Outrageous Acts of Science* blend entertainment with education to motivate students to investigate real-world phenomenon. Virtual labs and online models allow students to quickly manipulate variables to test out their ideas in an online environment. Students may even solve real world problems using NBA, WNBA, MLB or NFL topics with real-time data. Furthermore, the robust	Model Lesson California Physics of the Universe: Unit 3: Energy Conversion and Renewable Energy ○ Digital: • **https://tinyurl.com/rhc2xmu** California Physics of the Universe: Unit 3: Energy Conversion and Renewable Energy ○ Digital: Explore More Resources: **https://tinyurl.com/r2by25u** ○ Teacher Notes California Physics of the Universe: Unit 3: Energy Conversion and Renewable Energy ○ Print: • TE: Concept 3: Teacher Notes: p. 116

Components	Strengths	Citations
TS3. Effective Teaching.	digital content within Discovery Experience gives both teachers and students more opportunities to design authentic and meaningful problems. **Teacher Notes:** Teacher notes make the connection between the high-quality digital assets and activities and the SEPs and CCCs explicit for teachers through instructional guidance. SEP and CCC indicators are included for activities found in each day of instruction in the Teacher Edition. **Quick Digital Access:** Throughout the print Student and Teacher Editions, short links indicate opportunities to deepen learning through rich media or assessment opportunities. **Professional Learning Center:** The Professional Learning Center in the California Science Experience is an additional deep and rich resource for teachers to participate in interactive courses, see other Discovery Education teachers' classrooms, and access the online DEN community. The DEN online community is a global platform where teachers can learn, share, and connect with other educators.	

Components	Strengths	Citations
TS4. Support for Students with Diverse Learning Needs.	**Teacher materials provide an array of strategies:** • **to support student access to the targeted learning goals, experiences, and performances.** • **that help teachers differentiate instruction.** California Science Experience allows teachers to differentiate instruction, degrees of readiness, and interests and offers resources to help vary content, process, product, and learning environment through the core instructional pathway. **Content-Specific Differentiation Strategies:** Every concept within all California Science Experience courses include a robust Model Lesson. Within the Print Teacher Edition and Digital Teacher notes, teachers are provided with differentiation strategies, including scaffolded support for English language learners, struggling students, and advanced students, specific to the concept and that include reference to the use of multimedia assets. These differentiation strategies are provided at point of use. **Student Interactive Worktext Tools:** • Text read-aloud features • Lexile and language options • Highlighting and note-taking • Interactive glossary	Differentiation Strategies California Physics of the Universe: Unit 3: Energy Conversion and Renewable Energy ○ Digital: Teacher Preparation: **https://tinyurl.com/v4gjpa5** Technology Enhanced Items California Physics of the Universe: Unit 3: Energy Conversion and Renewable Energy • **https://tinyurl.com/ss3gcqt** Explore More Resources (Additional Resource Library of Aligned Content) ○ California Physics of the Universe: Unit 3: Energy Conversion and Renewable Energy • Digital: Explore More Resources: **https://tinyurl.com/r2by25u**

Component	Strengths	Citations
TS4. Support for Students with Diverse Learning Needs.	**Accommodate the differences in learners through student-centered instruction:** Features such as high-quality graphics and videos, game play, virtual labs, and robust STEM challenges motivate students to think deeply about topics that are traditionally taught through direct instruction, encouraging student-centered instruction and supporting teachers as learning facilitators. **Stress the collectivity of interactions as well as individuality:** Throughout the California Science Experience, learning experiences are designed for student collaboration and individual exploration. Hands-On Activities and STEM Project Starters provide opportunities for students to work together, while technology enhanced items encourage individual accountability. California Science Experience seamlessly incorporates Universal Design for Learning (UDL) principles, so students can access and create content and communicate their ideas using multiple means of representation. **Expansive Content to Reach All Learners:** Explore More Resources within the Explore Tab provides a variety of additional resources that can be used to differentiate by accelerating or remediating as needed. These related resources include; videos, Lexile-leveled reading passages, virtual labs, and editable Hands-on Activities/Labs.	

Components	Strengths	Citations
TS4. Support for Students with Diverse Learning Needs.	Discovery Education's Experience resource, which is also part of the adoption package, provides a repository of K–12, cross-curricular resources that can be used to differentiate and enhance learning for all students in the science classroom. **Assigning Features:** Teachers can tailor instruction and meet the needs of all students by assigning appropriate content based on specific learning preferences or developmental needs. In the California Science Experience, teachers can quickly assign and share instructional resources to individual students, groups of students, or the entire class. **Professional Learning:** Teacher professional learning is bundled in the California Science Experience program. The face-to-face and job-embedded professional learning sessions focus on getting started with and using the resources to meet the needs of all students through effective, differentiated instruction.	

Components	Strengths	Citations
TS5. Support to Monitor Student Progress.	**Materials provide support for teachers to monitor student learning and progress over time, make decisions about instruction, and provide feedback to students.** Student progress in the California Science Experience is found in many forms including Hands-on Investigations, Lesson Interactives and embedded within the 5-E learning cycle at point of use. Summative Unit level Assessments can be located in the digital program under the Unit Assessments and Resources tab. These assessments are CAST-like in that they mirror the state assessment in format, task type and content including questions that utilize at minimum, 2 of the 3 dimensions. The assessment items are launched through an engaging real-world application and require students to apply new content understanding.	Formative Assessment California Physics of the Universe: Unit 3: Energy Conversion and Renewable Energy ○ Digital: • Formative Item: Kinetic and Potential Energy: **https://tinyurl.com/wuon5sw** Summative Assessment California Physics of the Universe: Unit 3: Energy Conversion and Renewable Energy • PBA example: Types of Energy ○ Digital: **https://tinyurl.com/v8ulkww** Student and Teacher Learning Dashboards Video of Dashboard functionality: • https://tinyurl.com/y4chmhbz

Component	Strengths	Citations
TS5. Support to Monitor Student Progress.	**Dashboard:** Teachers are equipped with a Dashboard on the right-hand side of the screen that shows all student answers from the Technology Enhanced Items (TEIs). Throughout the learning progression, each tab of each concept includes Technology Enhanced Items that have students connect to what they already know about the topic (Engage), and then as they progress, to monitor what they do learn as they explore and learn through a variety of multimodal resources (Explore, Explain, Elaborate, Evaluate). Students receive feedback on their knowledge, and the teacher has real-time access to this data in the Dashboard. This real-time data allows teachers to remediate and differentiate as needed in order to help students develop metacognitive abilities. Based on this real-time data, teachers can then make decisions about the needs of each student and select an appropriate instructional resource within the concept to meet the students' needs. Discovery Education Experience resources deepen the pool of assets that can be assigned to students. In addition to the full Dashboard, teachers have a Results View for all individual Technology Enhanced items at point of use as well. **Builder Tools:** Assessment Builder and Discovery Studio give teachers flexibility to create customized assessments.	Teacher Dashboard 

Designed for CA NGSS: Student Work – Strengths and Limitations

Components	Strengths	Citations
SW1. Quality of opportunities to explain phenomena/ s olve problems.	**Materials provide anchoring and investigative phenomena/problems that:** • **engage students as directly as possible in authentic and relevant experiences.** • **are matched to targeted learning goals.** • **can be figured out/solved using scientifically accurate understandings and abilities.** • **make connections beyond and to their daily lives including to their homes, neighborhoods, communities, local environment, and/or cultures.** **Phenomena/Problems** The Unit Pages provide teachers and students direct access to real world, relevant, Anchor Phenomena for the unit, as well as Investigative Phenomena for each concept found in the unit. The Unit pages are available both in print and digital. Students are engaged in real-world, often local and relatable phenomena using video, imagery, hands-on experiences, and other modalities. Students are encouraged to write their own questions, but phenomena are also paired with guided questions for scaffolding when appropriate. As students move through the learning progression, the Anchor Phenomenon will be linked to concept Investigative Phenomena, which will drive student explorations using the SEPs through the lens of the CCCs.	**Engage Investigative Phenomenon Examples** [ensure that Teacher Presentation Mode is OFF by clicking the blue button in the bottom right corner. You will then see Blue Teacher notes.]: California Physics of the Universe: Unit 1: Forces and Motion • Unit Page: ○ Digital: Anchor Phenomena: **https://tinyurl.com/yyqrmqxv** • Concept Pages: ○ Print: SE: • Concept 1.1: Investigative Phenomenon p. 1 • Concept 1.2: Investigative Phenomenon p. 12 • Concept 1.3: Investigative Phenomenon p. 27 • Concept 1.4: Investigative Phenomenon p. 40 • Concept 1.5: Investigative Phenomenon: p. 63

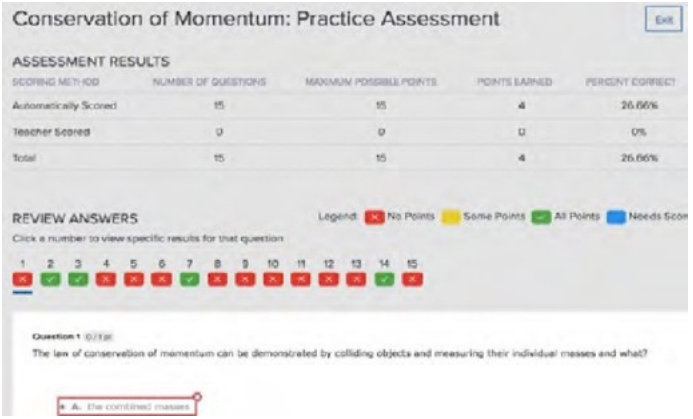
Components	Strengths	Citations
SW1. Quality of opportunities to explain phenomena/ s olve problems.	At the end of each Unit is a performance-based Unit Assessment, found in the Unit Resource tab in the digital program. These CAST-like assessments are rooted in real world, local or relatable anchor phenomena. Students are asked to apply understanding and three-dimensional learning to complete the task items.	○ Digital: Science Techbook • Concept 1.1: **dlc.com/ca11009s** • Concept 1.2: **dlc.com/ca11013s** • Concept 1.3: **dlc.com/ca11017s** • Concept 1.4: **dlc.com/ca11021s** • Concept 1.5: **dlc.com/ca11025s** **Phenomenon-Based Unit Assessments** (IN ENGLISH AND SPANISH): California Physics of the Universe: Unit 3: Energy Conversion and Renewable Energy • PBA example: Energy Conversion and Renewable Energy • Digital: **https://tinyurl.com/tlo3cba**

Components	Strengths	Citations
SW2. Quality of building a three-dimensional conceptual framework.	**Materials include learning experiences that help students build scientifically accurate understandings and abilities through opportunities for students to:** • **Link prior knowledge negotiated new understanding and abilities.** • **Do work that approximates the nature of science** • **Use reasoning to connect grade appropriate SEP, DCI, and CCC elements and EP&C's (when applicable).** • **Ask and answer questions that link learning over time** • **Negotiate new understandings and abilities by comparing their ideas, their peers' ideas, and ideas encountered in the learning experience(s).** • **Apply their understandings and abilities in a variety of ways** **Engage:** In the California Science Experience, the Engage section provides phenomena-driven or problem- based learning experiences as catalysts for the inquiry process, triggering students' natural sense of curiosity and wonder. Students are challenged to describe real-world phenomena and to develop questions around these phenomena through Can You Explain? questions. Technology Enhanced Items (TEIs) help students show what they already know about a concept, including their preconceptions and misconceptions.	Engage: Can you explain Example California Physics of the Universe: Unit 3: Energy Conversion and Renewable Energy ○ Print: SE: Investigative Phenomena: Harnessing Wind Energy: p. 155 • Digital: dlc.com/ca11049s ○ Explore: Formative and Hands-On Examples California Physics of the Universe: Unit 3: Energy Conversion and Renewable Energy • Hands On: Heat Flows in Solids and Liquids: Digital: **https://tinyurl.com/sveohsw** Elaborate: Formative STEM In Action Example California Physics of the Universe: Unit 3: Energy Conversion and Renewable Energy ○ Print: SE: STEM in Action: Applying Types of Energy: pg. 167 • Digital: **https://tinyurl.com/ubb4f34**

Components	Strengths	Citations
SW2. Quality of building a three-dimensional conceptual framework.	**Explore:** Providing the majority of the scientific content, the Explore section features text and resources that help students test predictions, collect evidence, and record observations and ideas. Explore also contains interactives and Hands-On Activities that check for understanding and provides opportunities for students to apply what they have learned. **Explain:** This section encourages students to verbalize and demonstrate their conceptual understanding, new skills, and behaviors by constructing a scientific explanation related to the Can You Explain? question first posed in Engage. **Elaborate:** By presenting opportunities for critical thinking, exploration, and summative assessments, the Elaborate section connects STEM skills to real-world problems. Elaborate with STEM is divided into two sections: STEM in Action and STEM Project Starters.	

Components	Strengths	Citations
SW3. Quality of leveraging student prior knowledge and experiences.	**Materials leverage students' prior knowledge and experiences to motivate student learning in ways that:** • **make visible students' prior knowledge and experiences related to the anchoring and investigative phenomena/ problems and relevant SEPs, DCIs, and CCCs and EP&Cs (when applicable).** • **revisit students' early ideas to see how they have changed (or not) as they figure out phenomena/solve problems.** • **make explicit links to new ideas and practices being developed by students.** The Engage section of each concept includes Technology Enhanced Items that have students identify what they already know about the topic. They receive feedback on their current knowledge, and the teacher has real-time access to this data in the Dashboard. Each concept also includes initial thoughts and ideas that might support the guiding question; this will appear at the bottom of the Engage page in the digital Techbook where it says "Can You Explain?" Students use resources such as hands-on activities, images, songs, interactives, glossary animations, reading passages, and the Core Interactive Text to answer "Can You Explain" questions. They will keep track of their evidence using both print and digital supports in crafting their scientific explanations in each concept and can revisit their answer in their personal dashboard.	California Physics of the Universe: Unit 6: Stars and the Origins of the Universe ○ Print: SE: Can You Explain: Investigating and Understanding the Universe: p. 327 • Digital: dlc.com/ca11093s ○ Digital: • Explore More Resources: Resource Library for Exploration: **https://tinyurl.com/wo2p3z6**

Components	Strengths	Citations
SW4. Quality of providing experiences that develop metacognition.	**Materials include learning experiences for students to:** • **Set and monitor their learning in light of the targeted learning goals** • **Consider, overtime, what and how they have learned across the three dimensions** • **Articulate how the three dimensions helped them figure out anchor and investigative phenomena/solve problems** **Monitoring Student Progress & Metacognition** Teachers are equipped with a Dashboard on the right-hand side of the screen that shows all student answers from the Technology Enhanced Items (TEIs) embedded in the Student Interactive Worktext. Throughout the learning progression, each tab of each concept includes Technology Enhanced Items that have students connect to what they already know about the topic (Engage), and then as they progress, to monitor what they do learn as they explore and learn through a variety of multimodal resources (Explore, Explain, Elaborate, Evaluate). They receive feedback on their knowledge, and the teacher has real-time access to this data in the Dashboard. This real-time data allows teachers to remediate and differentiate as needed in order to help students develop metacognitive abilities.	**Notes, Highlighting and Student Dashboard** 

Components	Strengths	Citations
SW4. Quality of providing experiences that develop metacognition.	Each Concept includes initial thoughts and ideas that might support the guiding question; this will appear at the bottom of the Engage page in the digital program, “Can You Explain?”. Students are encouraged to think about what they know, how they know it and what they would like to learn more about. They do this by applying their learning across the three dimensions and revisit this learning at the end of the Concept. Their new learning is then linked to confirming or modifying their initial understanding of Anchor Phenomena from the Unit launch. Students use resources such as hands-on activities, images, songs, interactives, glossary animations, reading passages, and the Core Interactive Text to answer “Can You Explain” questions. They will keep track of their evidence using both print and digital supports in crafting their scientific explanations in each concept and can revisit their answer in their personal dashboard. **Tools for All Types of Learners:** Students are able to annotate text using highlighting and notes. These annotations remain at point of use for students and are automatically populated in a Notebook that students can use for reflections and for reviewing their learning. Studio is an excellent tool that also provides an opportunity for students to demonstrate learning and revisit as they move through learning progression.	

Components	Strengths	Citations
SW5. Quality of providing equitable learning opportunities.	**Materials ensure that all students, including those from nondominant groups and with diverse learning needs, have access to the targeted learning goals and experiences, including:** • **appropriate reading, writing, listening, and/or speaking alternatives for students who are English language learners, have special needs, read below the grade level, or have high interest and have already met the intended learning goals.** • **culturally relevant contexts and examples that support all students.** • **opportunities to cultivate interest and confidence as scientists and engineers for all students.** California Science Experience offers access to best-in-class content that meets instructional goals, inspires student engagement, and reflects the diversity of the students served. With California Science Experience all students have full access to a robust science curriculum. **Reading Comprehension** Students interact with text, produce text, participate in discussions, and engage in research for the primary purpose of building their reading comprehension skills. Discovery Education's digital resources were expertly crafted with tools and opportunities to support all types of learners to make meaning of informational text. Multiple forms of representation, including language alternatives; dual reading levels; and the complementary use of images, videos, and audio, build	Questioning Like a Scientist Example  EXPLORE What Evidence Do Scientists Use to Explain the Nature and Origin of the Universe? The Origins of the Universe Scientists estimate that the universe is about 13.7 billion years old. This is much older than Earth. Earth is approximately 4.6 billion years old. The universe is also much older than the solar system to which Earth belongs. Scientists cannot make direct observations of most astronomical objects. Instead, they must study the light from these distant objects to gain an understanding about them. Scientists then can use this information from the objects' light to better understand the origin of the universe. Advances in technology over the last century have allowed astronomers to make observations of fainter and more distant objects across the entire electromagnetic spectrum. These observations have yielded evidence about the origin of the universe. With this evidence, scientists developed a theory to explain the initial formation of the universe. Scientific theories are ways of explaining why things happen in the natural world. They begin with a hypothesis, or an idea of how scientists think something works. Scientists then collect data to test the hypotheses. Scientific theories are thought to be correct until new information suggests alternative theories. Scientists always check theories by collecting more observations and by experimenting. LOWELL OBSERVATORY, ARIZONA The telescope in this dome gathers data from visible light and infrared radiation. The data is used to create images using digital technology. How do the designs of modern telescopes help them collect data from space? Sometimes, new observations cause a theory to be reshaped or modified to match the new evidence. The theory of how the universe came to be is explained by the big bang theory. The big bang theory was first proposed in 1927. Today, the big bang theory is generally accepted because many observations and experimental results support it. However, details about the theory are still being debated. 328 Discovery EDUCATION

Components	Strengths	Citations
SW5. Quality of providing equitable learning opportunities.	students' background knowledge and strengthen their comprehension. California Science Experience provides a wide array of graphic organizers and visual supports offering non-linguistic opportunities to process content. Hands-on Activities and labs provide support for interacting with science concepts making learning visual. Additional, Hands-on Labs and non-fiction Reading Passages are found in the Explore More Resources section of the Explore tab of each Concept providing related content for building students' scientific understanding and development. The Reading Passages on a concept are written at different Lexiles. These passages offer different text structures such as problem-solution, cause and effect, and compare and contracts. Students not only learn to read these types of texts but they are also used as mentor texts for writing. **Multilingual Support** Video, audio, and print text resources are available in a number of languages. Digital search filters help teachers and students identify resources in other languages. In addition, the program is available digitally and in print in both English and authentically translated Spanish to support dual immersion programs.	

Components	Strengths	Citations
SW5. Quality of providing equitable learning opportunities.	**English Language Development** California Science Experience provides access to rich content and academic language in science. Throughout the California Science Experience, ELA/ELD Standards and the California NGSS work in tandem to support the English learners. In the California Science Experience, students build knowledge about science in variety of different ways, and teachers are provided with point of use suggestions for meeting the needs of English Learner students with various levels of language acquisition including, Emerging, Expanding and Bridging. In addition to the point of use lesson suggestions, tools and supports are embedded within the digital and print components to scaffold and support language and content. California Science Experience supports the breadth and depth of students' vocabulary acquisition through multiple representations. Students will see new academic language highlighted in context of the student edition in both the print and digital program. In the digital offering students can click on the word and several additional contextual supports are provided such as; seeing the word in context of a sentence, viewing an image and/or video and a traditional definition.	

Components	Strengths	Citations
SW5. Quality of providing equitable learning opportunities.	In addition to California Science Techbook, all students and teachers will have access to the Discovery Education Experience (formerly known as Streaming), providing access to rich content to extend and deepen students understanding. Through the Discovery Education Experience, students have access to more than 200,000 media assets to go as deep and wide as preferred. This includes: • appropriate reading, writing, listening, and/or speaking alternatives for students who are English language learners, have special needs, read below the grade level, or have high interest and have already met the intended learning goals. • culturally relevant contexts and examples that support all students. • opportunities to cultivate interest and confidence as scientists and engineers for all students.	